

TABLE 1.2.3.A
SUMMARY OF FLOW CONTROL PERFORMANCE CRITERIA ACCEPTABLE FOR IMPACT MITIGATION⁽¹⁾

IDENTIFIED PROBLEM DOWNSTREAM	AREA-SPECIFIC FLOW CONTROL FACILITY REQUIREMENT		
	Basic Flow Control (FC) Areas	Conservation FC Areas	Flood Problem FC Areas
No Problem Identified Apply the minimum area-specific flow control performance criteria.	Apply the Level 1 flow control standard, which matches existing site conditions 2- and 10-year peaks	Apply the historic site conditions Level 2 flow control standard, which matches historic durations for 50% of 2-yr through 50-year peaks AND matches historic 2- and 10-year peaks	Apply the existing or historic site conditions Level 2 flow control standard (whichever is appropriate based on downstream flow control area) AND match existing site conditions 100-year peaks
Type 1 Drainage Problem Conveyance System Nuisance Problem	<u>Additional Flow Control</u> Hold 10-year peak to overflow T_r peak ⁽²⁾⁽³⁾	<i>No additional flow control or other mitigation is needed</i>	<i>No additional flow control or other mitigation is needed</i>
Type 2 Drainage Problem Severe Erosion Problem	<u>Additional Flow Control</u> Apply the existing site conditions Level 2 flow control standard ⁽³⁾⁽⁴⁾	<i>No additional flow control is needed, but other mitigation may be required⁽⁴⁾</i>	<i>No additional flow control is needed, but other mitigation may be required⁽⁴⁾</i>
Type 3 Drainage Problem Severe Flooding Problem	<u>Additional Flow Control</u> Apply the existing site conditions Level 3 flow control standard to peak flows above the overflow T_r peak. If flooding is from a closed depression, make design adjustments as needed to meet the "special provision for closed depressions" ⁽³⁾⁽⁵⁾	<u>Additional Flow Control</u> Apply the historic site conditions Level 3 flow control standard. If flooding is from a closed depression, make design adjustments as needed to meet the "special provision for closed depressions" ⁽³⁾⁽⁵⁾	<u>Additional Flow Control</u> If flooding is from a closed depression, make design adjustments as needed to meet the "special provision for closed depressions" ⁽³⁾⁽⁵⁾
Potential Impact to Wetland Hydrology as Determined through a Critical Area Review per KCC 21A.24.100	<u>Additional Flow Control</u> DDES may require design adjustments per the wetland hydrology protection guidelines in Reference Section 5	<u>Additional Flow Control</u> DDES may require design adjustments per the wetland hydrology protection guidelines in Reference Section 5	<u>Additional Flow Control</u> DDES may require design adjustments per the wetland hydrology protection guidelines in Reference Section 5

Notes:

- (1) More than one set of problem-specific performance criteria may apply if two or more downstream problems are identified through offsite analysis per Core Requirement #2. If this happens, the performance goals of each applicable problem-specific criteria must be met. This can require extensive, time-consuming analysis to implement multiple sets of outflow performance criteria if additional onsite flow control is the only viable option for mitigating impacts to these problems. In these cases, it may be easier and more prudent to implement the **historic site conditions** Level 3 flow control standard in place of the otherwise required area-specific standard. Use of the historic Level 3 flow control standard satisfies the specified performance criteria for all the area-specific and problem-specific requirements except if adjustments are required per the special provision for closed depressions described below in Note 5.
- (2) Overflow T_r is the return period of conveyance system overflow. To determine T_r requires a minimum Level 2 downstream analysis as detailed in Section 2.3.1.1. To avoid this analysis, a T_r of 2 years may be assumed.
- (3) Offsite improvements may be implemented in lieu of or in combination with additional flow control as allowed in Section 1.2.2.2 (p. 1-24) and detailed in Section 3.3.5.
- (4) A tightline system may be required regardless of the flow control standard being applied if needed to meet the discharge requirements of Core Requirement #1 (p. 1-19) or the outfall requirements of Core Requirement #4 (p. 1-48), or if deemed necessary by DDES where the risk of severe damage is high.
- (5) **Special Provision for Closed Depressions with a Severe Flooding Problem:**
 IF the proposed project discharges by overland flow or conveyance system to a closed depression experiencing a **severe flooding problem** AND the amount of **new impervious surface** area proposed by the project is greater than or equal to 10% of the 100-year water surface area of the closed depression, THEN use the "point of compliance analysis technique" described in Section 3.3.6 to verify that water surface levels are not increasing for the return frequencies at which flooding occurs, up to and including the 100-year frequency. If necessary, iteratively adjust onsite flow control performance to prevent increases. *Note: The point of compliance analysis relies on certain field measurements taken directly at the closed depression (e.g., soils tests, topography, etc.). If permission to enter private property for such measurements is denied, DDES may waive this provision and apply the **existing site conditions** Level 3 flow control standard with a mandatory 20% safety factor on the storage volume.*

❑ DIRECT DISCHARGE EXEMPTION

Any onsite **natural drainage area** is exempt from the flow control facility requirement if the area drains to one of the **major receiving waters** listed in Table 1.2.3.B at right, AND meets the following criteria for *direct discharge*²³ to that receiving water:

- The **flowpath** from the **project site** discharge point to the edge of the 100-year floodplain of the major receiving water will be **no longer than a quarter mile**, except for discharges to Lake Sammamish, Lake Washington, and Puget Sound, AND
- The conveyance system between the **project site** and the **major receiving water** will extend to the ordinary high water mark, and will be **comprised of manmade conveyance elements** (pipes, ditches, etc.) and will be within public right-of-way or a public or private drainage easement, AND
- The conveyance system will have **adequate capacity**²⁴ per Core Requirement #4, Conveyance System, for the entire contributing drainage area, assuming **build-out conditions** to current zoning for the *equivalent area* portion (defined in Figure 1.2.3.A, below) and existing conditions for the remaining area, AND
- The conveyance system will be adequately **stabilized to prevent erosion**, assuming the same basin conditions as assumed in Criteria (c) above, AND
- The direct discharge proposal will not **divert flows** from or increase flows to an **existing wetland or stream** sufficient to cause a significant adverse impact.

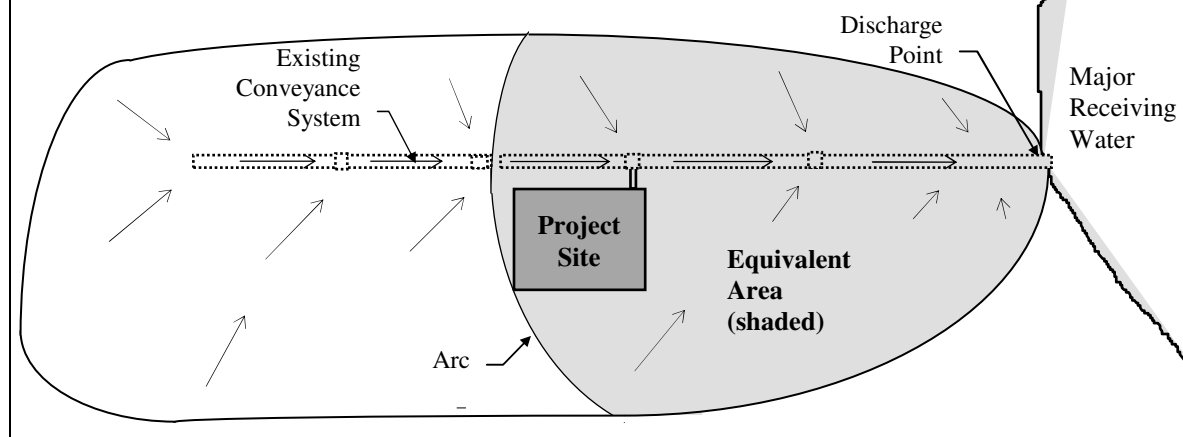
**TABLE 1.2.3.B
MAJOR RECEIVING WATERS**

- Cedar River
- Green/Duwamish River below River Mile 6 (S. Boeing Access Road) and above SR 18
- Snoqualmie River (includes the North, South, and Middle Forks)
- Sammamish River*
- White/Stuck River
- South Fork Skykomish River
- Tolt River
- Lake Sammamish
- Lake Washington
- Puget Sound

*Note: The **major receiving waters** listed above do not include side adjacent or associated channels, spring- or groundwater-fed streams, or wetlands.*

FIGURE 1.2.3.A EQUIVALENT AREA DEFINITION AND ILLUSTRATION

Equivalent area: The area tributary to a direct discharge conveyance system that is contained within an arc formed by the shortest, straight line distance from the conveyance system discharge point to the furthestmost point of the proposed project.



* Projects discharging directly to the Sammamish River must infiltrate runoff to the extent feasible before discharge to the River.

²³ Direct discharge means undetained discharge from a proposed project to a **major receiving water**.

²⁴ Note: If the conveyance system is an existing King County-owned system, the County may charge a special use fee.